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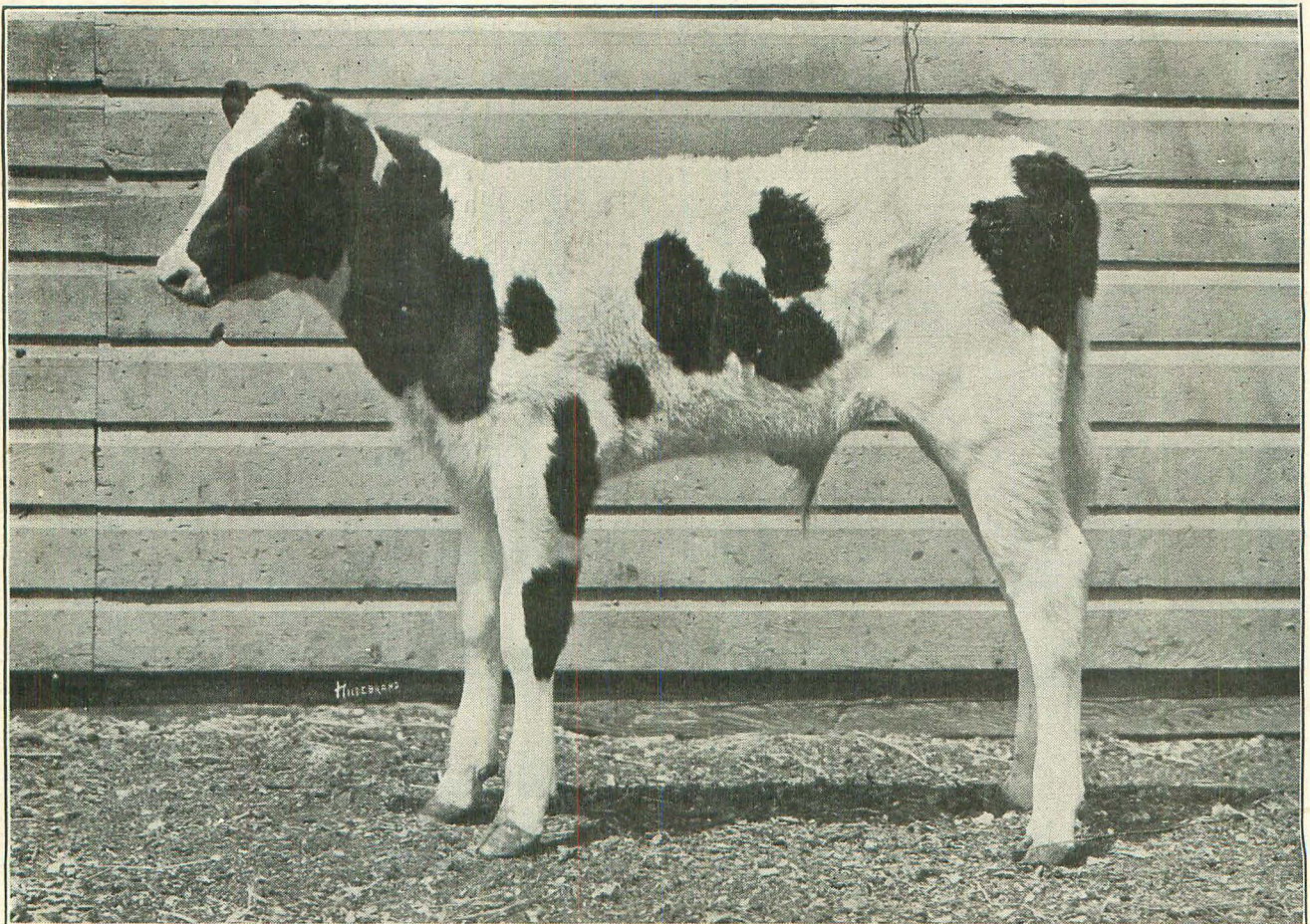
"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 16 No. 1

Lisbon, North Dakota, July 15, 1914

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Alex Alin



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THE NORTH DAKOTA FARMER

Vol. 16, No. 1

LISBON N. D., JULY 15, 1914

50 Cents a Year

The Conservation of Water

By President J. H. Worst, N. D. A. C.

This has been a remarkable season for moisture. In fact in some sections of the state rainfall in excess of what the crops needed. As a result many acres of grain in the low and poorly drained portions of the state suffered severely and in some instances was entirely destroyed. Even in the western and dryer districts vast quantities of water drained off the land, filling the streams to overflowing and carrying away bridges and doing other damage.

It is a great pity that all this water could not have been impounded within the territory where it fell, for future use. There was enough "run off" to have filled hundreds of ponds which, slowly evaporating, would have produced atmospheric humidity that would greatly lessen the evaporation from the soil at a later period. Moreover, with deeper plowing much more water would have found its home into red subsoil and thus have saved future crops from the possible effects of thought.

The time to conserve moisture is when we have it. The superabundance of rainfall at any particular time does not guarantee its continuance. However, but little in the way of cultivation can now be given the soil for the purpose of conserving the excess of moisture it contains, tho the rank covering of grain will act as a protection against rapid evaporation, except as the plants draw it from the ground and expire it thru their leaves. But the moment the grain is cut and the sun shines and winds strike the earth and the small weeds take on rapid growth the moisture will be drawn out of the surface soil very quickly.

In view of these facts the ground should be thoroly disced immediately behind the binder and the grain shocked on the disced ground. The disc will destroy the small weeds and

grind them, together with the heavy stubble, into the earth, forming a mulch that will effectually retard evaporation. Then when the fall-plowing is done the "furrow slice" will form a close contact with the subsoil and, without any packing, settle in place for a good seed bed the following spring. Otherwise, the weeds will, together with the stubble, form a mass of trash that will completely insulate the furrow slice from the subsoil and thus very greatly lessen the probabilities of a good crop the following season, both on account of this insulation and the loss of moisture occasioned by the growth of weeds and evaporation.

But the average farmer has not the time to disc behind the binder, says one. That may be true; but can a farmer afford not to do so? As constant moisture is the determining factor that regulates the size and certainty of the future crop should it not be conserved to the utmost at whatever cost? In other words, is it safe to farm so much land that every precaution cannot be taken to reduce the chance of failure on account of drought to the very minimum?

Under any circumstances I would earnestly advise every farmer who feels that he cannot comply with the recommendations here made, nevertheless to run the disc behind the binder on at least a ten-acre plot, by way of experiment. To prove most effective, however, the discing must be done in a thoro manner and the surface soil well pulverized. Note then the condition of the ground when the fall-plowing is done and also dig down, say next June, and compare the subsoil moisture on the land thus treated with the undisc'd soil on the land. Note also the yield at harvest time, adjacent to it. In this way a farmer is enabled to obtain facts relative to moisture conservation without great expense.

To more effectually conserve moisture the ground, even that seeded to wheat, oats or barley, should be dragged once or twice after the grain has attained some size, especially if spring rains have caused a crust to form. Judgment must be used, however, and the condition of the soil taken into account.

By thus experimenting in a small way the average farmer will be able to determine where he can apply his time and energy with greatest assurance of profit. Just try discing ten acres behind the binder and drag some ground twice the following season—after the grain is up several inches high and compare it with ground treated the ordinary way. Do this for a number of years.

HAS YOUR WHEAT BEEN INFESTED WITH THE HESSIAN FLY?

Farmers Invited to Co-operate in Destruction of Pest that is Liable to Cause Considerable Damage to Crops this Fall

"Has your wheat been infested by the Hessian fly this season?" is a question that the U. S. Department of Agriculture is now asking farmers. The information is desired that there may be general co-operation between all concerned in reducing the devastations of the fly. There is every indication that the pest will be unusually troublesome to the crop this fall.

Every wheat grower in the country who suspects that his crop has been infested is requested to send his name to the Department's Bureau of Entomology at Washington, D. C. with a request for a question blank. The questions to be answered are merely as to whether the wheat grower's crop was infested at certain seasons. The farmer will then be asked to for-

ward some of the infested wheat plants for examination, postage to be paid by the Government. He will also be asked to give his name, address, and the nearest railway station.

The Department is co-operating with various State Experiment Stations in this campaign against the Hessian fly, and in some cases the infested straw will be sent by the farmer to local stations for examination. The wheat grower can learn just where his sample of straw is to be sent when he sends his name to the Department, indicating his willingness to send the sample. The Department encourages the sender not to be afraid to forward too much of the straw, even tho it has to be sent by parcel post. The upper part of the straw need not be sent, but enough above the ground should be included to get the insect in what is known as the "flaxseed" stage when the larva is incased in a hard, brown skin and somewhat resembles a flax seed. The insects will remain for a considerable time in the "flaxseed" state during a drought and will only emerge after rains have moistened the soil. Dry weather in the late summer tends to keep the insect in that stage, which is a fact of special importance in the North where the wheat must be sown early enough to enable the plants to stand the winter.

Probably no other insect causes more damage to the wheat crop in the United States than the Hessian fly, altho there are certain years when the chinch bug exceeds the fly in its devastations. During the seasons when the fly is especially abundant hundreds of thousands of acres of wheat may be either totally destroyed or so badly injured as to reduce the yield 50 to 75 per cent. The monetary losses run far up into the millions.

A number of years ago there was in Kansas general co-operation between grain dealers, millers and farmers to restrict the ravages of this dangerous insect. According to their own estimate, over a million dollars were saved by prompt action and thoro measures. This year the Department hopes to secure general co-operation thruout the country in combating the pest. There are indications that its ravages may be severe. Already in Iowa and Oklahoma there have been threatening outbreaks of the insect.

Not only are Federal and State organizations of the Government co-operating in this campaign but others such as the National Millers' Federation are working to secure better control over the Hessian fly. The individual wheat grower is asked to send his samples of infested straw before the middle of September, and sooner if possible, as after that, the fly will

have hatched and have entered into the wheat.

Late sowing of the seed and burning of the stubble when not seeded to grass or clover are the only measures known to date that are effective in controlling the Hessian fly—that is, for winter-wheat growing sections. In the spring-wheat sections, late seeding will not apply. On the contrary, the earlier it is sown in the spring the less it seems to suffer from this pest.

A more detailed explanation of late sowing for winter wheat to avoid attack by the Hessian fly will be given in a subsequent article. The present article is merely an invitation to the wheat grower to help the Department in its campaign. The post card to be forwarded the farmer, contains enlarged illustrations of the fly in its adult and also its "flaxseed" state.

REFORMS IN PRISON LABOR

Trusting men, instead of beating them, were contrasted at the annual meeting of the National Committee on Prison Labor, held at Heather Dell farm, the home of Adolph Lewisohn, near New York City, June 20.

The National Committee heard of the magnificent highways which prisoners are building, miles away from any prison building, guarding themselves and taking pride in their work. They heard also that this honor system is not in use in many prisons, and cases were cited of cruel punishments inflicted in the last few weeks which degrade the prisoner so that he never can be fit for free life. A strong appeal was made at the meeting against capital punishment, based in part on its futility to prevent murder and its evil effect on prison officials, tending to keep men of high type out of prison work.

The injustice of the sentences imposed by many judges was referred to, and a plea made for sentences which shall be absolutely indeterminate. It was shown that the first need of the prisoner is for scientific examination, mental and physical, and the application of measures to overcome his defects. Then he should be assigned to some industry which will develop what ability he has. Finally his release should come after he has proved, both by his skill in labor and his conduct in prison, that he can be freed without danger of a speedy return to the prison.

The slavery of the prisoner was held to lie at the root of all the evils of our prison system. The Committee is endeavoring to break down this slave system by securing wages for the prisoner before the courts of the state of Rhode Island, the constitution of

which prohibits slavery without exception as to punishment for crime.

The work of the Committee during the past months has grown to be of such magnitude and is covering so many lines of activity that it was decided to change the name to National Committee on Prisons and Prison Labor. Under its new name the Committee will push with vigor its campaign against the contract system of prison labor and for the upbuilding of the prisoner thru fair treatment, fresh air and sunshine, and incentive to do the best that is in him.

PASTURE

W. C. Palmer, Agri. Ed., N. D. A. C.

Pasturing is the cheapest way of feeding stock. In Minnesota it was found that the average amount of pasture secured from an acre was 113 days for a 1000 pound animal, at Northfield and Marshall, and 61 days at Halstad. These figures are from the records kept on the statistical routes 1906-1909.

In North Dakota the amount of pasture from an acre will be less, yet pasture remains one of the cheapest ways for providing food for stock.

The native prairie has been the most common pasture. This does well if not pastured too heavy. If pastured close the first season but little grazing is furnished the next year. One way to renovate the native pasture is to disc it in the spring.

The best grass to sow for pasture is brome grass. This is a persistent grower, and also drought resistant. Fifteen pounds per acre makes a good sowing. A good way is to sow some small grain as a nurse crop, but sow less than the regular amount and cut it, while green, for hay. When the grain crop is allowed to mature it takes a lot of moisture from the soil. If the soil is well supplied with moisture this is all right, but if the soil does not contain a good supply of moisture the grass will suffer too much from the crop ripening.

The stand may appear a little light the first year. The second year should give the best returns. The third spring a good discing will do much to invigorate the growth. A good discing should be given each spring from this time on. A top dressing with manure increases the growth a great deal.

The best results in the general farming will be secured if this sod is broken up at the end of three or four years and a new piece seeded down. Leaving the land in grass three or

four years puts a lot of grass roots into it and clears it from weeds so it is put into fine shape for producing good crops.

In plowing up this sod, plow shallow as soon as the hay crop is taken off, or if in pasture, at the same time. In the fall back-set and the grasses will be dead.

The brome grass is often infested with quack grass. This needs to be carefully watched. Before sowing any brome grass seed be sure that it is free from quack grass. One way to do this is to send a sample of the seed to the seed commissioner at the Agricultural College. In taking the sample be sure that some is taken from every sack and from several places in each sack.

Brome grass is difficult to kill among trees so it is well to keep it out of the grove.

For pasture a mixture is better than one kind alone. A pound or two of alfalfa can be added, per acre, and in the eastern part of the state blue grass makes a good addition. The brome grass will do much toward solving the pasture problem. Discing and manuring are good ways of invigorating this kind of pasture.

SAMPLES OF SMUT-INFECTED GRAIN WANTED

New trials in disinfection for smut prevention are to be carried on by the Department of Botany, N. D. Experiment Station.

The aim is to find out some more effective means of treating the seed grain, and especially wheat.

Prof. Bolley desires to secure samples of grain that are badly infected with smut for use in these trials. Any one who can supply such

grain should send in a sample by mail, so that it can be examined to determine its suitability for this test. If it is found satisfactory, arrangements will be made for securing enough of this grain to carry on the experiment.

WHAT THE GRANGE HAS DONE FOR THE SCHOOLS IN OHIO

F. A. Derthick, President Ohio School Improvement Association

While giving credit to the agencies in Ohio that have aided in creating a sentiment which we hope will make the proposed school improvement possible the Order of the Patrons of Husbandry must not be forgotten. This organization has a membership in Ohio of forty thousand, and in the U. S. of a million.

One of the Chief Corner Stones of the Order is Education. For the past fifty years the order has urged that as the most important factor in American life. Each year from every county in Ohio picked men and women have come up to the annual sessions as delegates, fresh from the "front." They have realized better than any one else could the defects in our rural school system. Fifteen years ago the State Grange abandoned passing resolutions and made positive declarations in favor of specific changes. In 1898 the Grange declared for consolidated schools, urging that ratifical lines be disregarded and topographical lines and population be considered in creating school districts.

The Grange the Leader.—In 1901 a special committee on rural schools urged that the county and state be made the units in school administration, professional training for teach-

ers, better school houses, and that where there was no Grange they be made the social center of the community. The present legislative agent of our Federation was a member of the committee and wrote the report which was adopted by the Grange. In 1902, the Grange declared emphatically for centralization, giving cogent reasons therefor.

In the years since the Grange has

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re-affirmed these demands and in turn has declared for agricultural, industrial and domestic science training. In 1908, it declared that the weakest place in our rural school system was lack of organic supervision. In 1912 and 1913 it declared for the county as the unit in supervision, administration and taxation in all school affairs. In each case cited the Grange endorsed the report of its committee by unanimous vote.

WHAT IS DRY-FARMING?

R. H. Faxon, Wichita, Kansas

"Dry-Farming, if it be a fad, has the satisfaction of being the oldest and longest-sustained fad that has ever been practiced by man; for actually it is prehistoric."

That is the way the art which is uppermost in the minds of Wichitans this year by reason of the world's greatest agricultural event being held here in October next, is described by one who knows it.

The man who wrote the above quotation is Charles Cristadoro, of Point Loma, California.

Mr. Cristadoro is, officially, historian for the International Dry-Farming Congress. He is one of its leading exponents and advocates. He is a man of great culture, great resource, great energy. He has worked wonders in intense cultivation and scientific agriculture in San Diego County. He has secured the establishment of the county agent system, and has become a great factor in advancing even the advanced methods of southern California.

Continuing, Mr. Cristadoro says:

"Call dry-farming intensive, progressive, up-to-the-minute farming, mixing - brains - with - the - soil farming, and you are then in terms more expressive describing dry-farming.

"It is not a legerdmain process of securing crops from the rainless and unmoistened desert. It is a sane application of the most modern farming principles to the soil; and curiously enough, the intensive dry-farming immigrant from Europe goes onto the abandoned, mined-out, stone-scrambled, and plantfood-exhausted Connecticut farm, and in five years it is producing better than in the old virgin days of the revolution and before. Dry-farming knows no one circumscribed section, but belongs to all lands possible of agriculture, whether the rainfall be ten inches or thirty to forty inches. It is thinking, scientific farming, an insurance against that atmospheric and merciless thief, the drought."

Mr. Cristadoro tells of famous grape vineyards where, in southern California, the work done in this respect, under so-called "dry-farming" methods, has made a great success. He illustrates it in a recent article he has written by showing pictures of the vineyards and of the grapes. He also tells of dairying, and he has a good deal to say of the silo. In fact, dairying and the silo have been the Cristadoro hobby.

Going a bit further with his definition of dry-farming, Mr. Cristadoro says:

"Dry-farming, defined as industrious, intelligent, intensive, call it brainy farming, is the farming of the future, whether the location of the farm be within the subhumid or the semiarid belt; for it means intensive, diversified, crop-rotation farming."

Here is another Cristadoro aphorism:

"A minimum of water with a maximum of cultivation!"

Mr. Cristadoro predicated his criticism of the recent article in Harper's Magazine which reflected a great deal on what it termed "fool" dry-farming. It was a more or less learned dissertation, lofty in construction and ideas, and calculated to show that there was simply nothing to dry-farming as such—indeed, but very little to scientific agriculture. It was unfair, incorrect, presumptuous, and entirely misleading.

Mr. Cristadoro, who is greatly interested in the ninth annual sessions of the Congress and in the great Soil-Products Exposition at Wichita, October 7-17, recently wrote the Wichita offices that his own big southern California city of San Diego had aspirations to entertain the 1915 Congress.

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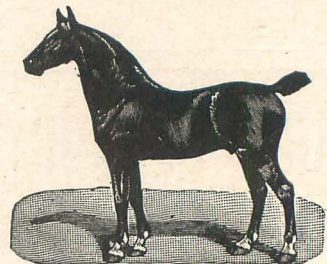
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WHEAT ROOT DISEASES

Wheat Root Diseases is the subject matter of Bulletin No. 107, North Dakota Experiment Station. H. L. Bolley is the author.

The discussion takes up the decrease of quality and yields due to these root diseases, and the relation of constant cropping to the occurrence of them.

The means of control recommended are: (1) Grow one variety of pure bred seed, grade it up and treat before seeding. (2) Rotate the crop so the disease fungi are starved out before wheat is grown there again. (3) Avoid introducing the disease in fresh manure containing wheat straw on to land that is to grow wheat.

Copies of the bulletin may be secured from the North Dakota Experiment Station, Agricultural College, N. D.

COAL PRODUCTION IN NORTH DAKOTA IN 1913

Altho the production of coal in North Dakota in 1913 was only 495,320 short tons, valued at \$750,652, some extremely interesting facts regarding the possibilities of the vast deposits which underlie the State are shown in a statement by E. W. Parker just made public by the United States Geological Survey. All the present mineral fuel produced in North Dakota is brown coal, or lignite. Considerable areas of subbituminous coal of usable quality and workable thickness are believed to underlie portions of the lignite areas, but no attempt to exploit the subbituminous coals has been made. Compared with 1911, when the production attained its maximum record of 502,628 tons, the output in 1913 shows a decrease of 4,160 tons. The relatively small differences in production during the last three years indicate an absence of any fluctuating influences and show that active development of lignite properties will wait upon increased population. At present the lignite is used chiefly for domestic purposes, but with proper equipment it can be used with satisfaction as a boiler fuel. A convincing example of

what may be accomplished with lignite for such use is presented by the irrigation plant of the United States Reclamation Service at Williston. The lignite used here is taken from the only coal mine owned and operated by the Government. The Reclamation Service operates the mine and uses the product in the generation of steam for its pumping plant connected with the irrigation project at Williston. The water is raised from the Missouri River and delivered to an extensive system of canals and ditches by which a large section of the Missouri River valley is irrigated. At Kenmare, Scranton, and Dickinson lignite is also successfully used in the burning of brick, for which its smokeless and sootless qualities and relatively low cost make it adaptable.

The mine of the Reclamation Service consists of a series of drifts on a 9-foot flat bed. The galleries or underground workings are at an average depth of about 100 feet below the surface.

The average output at present is 100 tons a day, and the coal is transported to the crusher near the power plant on cars hauled by mules and is there broken to nut size. The mine employs from 12 to 15 miners during the irrigation season of about five months in each year. The average output is 6 to 10 tons of lignite per miner daily and the net average earnings of the miners are from \$3.50 to \$5 a day of eight hours. The miners are furnished with "permissible" explosives at a slight advance above cost.

As the gas-producer and internal-combustion engines in large units

come into more general use in the West, as they are rapidly doing in the East, the lignites of North Dakota will be recognized as possessing great potentialities in the settlement and economic development of the State. Experiments also show that lignite can be successfully briquetted, after which it stands transportation well and its heat value is increased 50 to 70 per cent.

WILL CONGRESS SIDETRACK ROADS BILL?

"That Congress will adjourn and go into the fall elections without grasping the opportunity to win overwhelming popular approval by the enactment of

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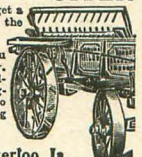
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FARGO, NORTH DAKOTA

Federal road legislation seems unbelievable," is the comment of Dr. H. M. Rowe of Baltimore, first vice president and acting president of the American Automobile Association during the European absence of John A. Wilson of Franklin, Pa.

"Rumors are afloat, however, that good roads legislation will be laid on the table at this session of Congress, thru a declination on the part of the Senate Committee on Post Offices and Post Roads to report the measure which overwhelmingly came to it from the House. If this is the case, the Democratic party is disregarding a chance to achieve a brilliant strategic advantage in the coming election.

"The voters in the rural districts are almost unanimous in favor of Federal aid to roads. They are expecting and demanding such aid. Such opposition as exists is feeble and half-hearted.

"Tariff legislation, currency reform, canal tolls, anti-trust bills, are all

storm centers of discussion, but however important, may be the policies advocated by the party in power, they are far removed from the direct interests of the people, and in effect create only targets for the fire of the opposition. To neutralize the attack which is sure to come, the party in power should not overlook this golden chance to win the affection and support of the country voters.

"If the Democratic party passes this opportunity up there will be many an anxious moment for the stump speaker when he tries to explain why, in all the multitude of legislative enactments, good roads were overlooked.

"It is better to deal with the situation now from the standpoint of good politics than to wait until after adjournment, for then it may be that 'all the King's horses and all the King's men can't put Humpty Dumpty together again.'"

injuries are reported, particularly in Indiana, Illinois and Missouri.

Last year the commercial apple crop was considerably less than in the preceding year, the shipments of the fruit by rail and water being only 64 per cent of the 1912 season. This movement, which constitutes one-fourth or one-fifth of the total crop, amounted to 28,653,000 bushels.

From the Nation's Capital

By Richard Hamilton Byrd

BILLION DOLLARS FOR GOOD ROADS

Congress will shortly be called upon to pass judgment on a bill which will have the favorable endorsement of the Senate Committee on Postoffices and Post Roads, whereby one billion dollars is to be raised by the sale of state bonds, guaranteed by the Federal Government, to be expended in the construction of good roads. Each state's share of the billion of dollars of bonds would be determined upon the basis of area, population, assessed valuation, and road mileage.

"Should the state issue its bonds without the Federal guarantee," said Senator Martin of New Jersey," it would have to pay about 4 per cent interest, while I am confident that the government can obtain the money by placing its guarantee on the bonds at from two and one-half to two and three-fourths per cent. On \$1,000,000,000 this difference in interest charges would be enormous. I am convinced that there is plenty of money seeking an absolutely safe investment in the country to take up such an issue of bonds at those interest charges."

Under the plan of distribution among the states of the amounts which the government would guarantee under the bill, New York could issue \$78,600,000 of bonds guaranteed by the government; Illinois \$39,400,000; California, \$35,000,000; Connecticut,

cut, \$8,700,000; New Jersey, \$17,700,000; Massachusetts, \$27,300,000; Pennsylvania, \$56,500,000, and Georgia, \$24,500,000.

BUMPER CROP OF APPLES

According to reports received by the Department of Agriculture, apples this year promise a heavy yield in Maryland and North Carolina, the finest crop in the history of Colorado, an unusual crop in Michigan, good crops in Virginia, Georgia and South Carolina, and prospects in other states generally good or above the average. Insect pests have killed many old orchards in New England, and damage from tent caterpillars was common from Maine to New York. Some injury was suffered in Indiana and Illinois from a late freeze, and insect



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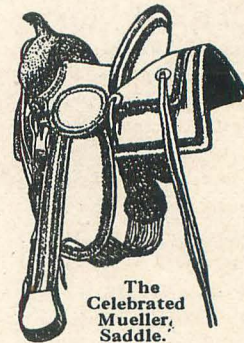
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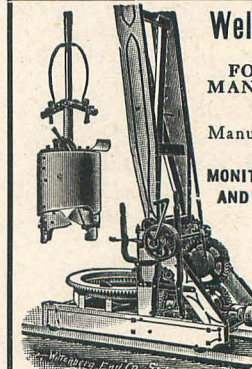
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ment it is hatched it is heavier than the egg was before.

EGGS BY PARCEL POST

A System of Marketing that Offers Possibilities of Better Prices for the Producer and Fresher Articles for the Consumer

That eggs can be marketed successfully by parcel post and that this method frequently secures a better price for the producer and a fresher article for the consumer has now been demonstrated to the satisfaction of the experts in the U. S. Department of Agriculture. The Department conducted tests that covered a period of five months. At the end of that period it came to the conclusion that the parcel post was of particular value to the man whose flock was too small or who lives too far from express service to permit him to ship his eggs in the regular commercial case which holds 30 dozen eggs.

In the course of these experiments the Department shipped 9,131 eggs in 466 lots. Of these 327 or slightly less than 3.6 per cent were broken, but only 209 or slightly less than 2.3 per cent were absolutely wasted. The others, tho broken, could still be used. The percentage of breakage, moreover, will be greatly reduced, it is said, when the employees of the Post Office become more accustomed to handling such fragile matter.

That the eggs should be properly packed is of course essential. This implies time, care and some expense and is one reason why no attempt should be made to market by parcel post any but the finest quality of eggs, for they alone will bring remunerative prices. Moreover, if the customer who buys in small lots finds that any considerable proportion of his purchases is undesirable or even unattractive in appearance, he will not trouble to ask for deductions on that account; he will simply discontinue his orders. The producer, therefore, must see to it that all the eggs the postman delivers are what he represents them to be.

This can only be done by candling them. Candling, "The process of testing eggs by passing light thru them so as to reveal the condition of the contents," is omitted by many producers who rely on care in collecting to eliminate all bad eggs. It is, however, impossible to avoid an occasional accident and candling is therefore advisable as an extra precaution. A simple outfit can be made out of a small hand lamp and an ordinary pastboard box sufficiently large to be placed over the lamp, after the

ends have been removed, without risk of fire. In order to supply air to the enclosed lamp, notches should be cut in the edge on which the box rests. A round hole is then cut in the box at the level of the lamp flame and the candling done by holding each egg against this hole while the rest of the room is in darkness. The light from the lamp reveals the contents of the egg and those that show any defect can be rejected.

If possible only infertile eggs should be sent to market. Fertile eggs deteriorate rapidly in warm weather and are the cause of much loss. A broody hen on the nest or accidental exposure to a high temperature may start incubation and cause the egg to spoil and injure the shipper's reputation. It is advisable, therefore, to retain the fertile eggs for home use or dispose of them in some other way than thru the parcel post. This is also true of soiled eggsg. Eggs should never be washed when intended for highclass trade, since the process removes a natural mucilaginous coating and opens the pores of the shell.

After this thoro elimination of the unfit, the eggs that remain should be carefully packed in a container of corrugated pasteboard, metal, wood or other suitable material. The post office regulations require this container to be so wrapped that nothing can escape from the package and each egg in addition to be wrapped separately in excelsior, cotton, or some such material. Any soft paper serves the purpose quite well. As for the container itself, there are many kinds on the market and the Department of Agriculture investigators have not attempted to decide which is the best. Instead they refer inquirers to the various state experiment stations which have available information on this question.

In packing eggs it is well to sort them as far as is practical according to size and color and to keep for home use those which are irregular in shape, unusually long or thin-shelled. Containers that have been badly stained by broken eggs should be replaced by new ones and the package wrapped as neatly as possible. In short every effort should be made to deliver as attractive expense will be little and the returns in increased trade great.

The larger the shipments that the producer can arrange to make, the cheaper can he afford to sell his eggs. Within the first and second zones of parcel post service, a package costs five cents for the first pound and only one cent for each additional pound. Ordinarily eggs weigh about one and one-half pounds a dozen, which with the additional weight of the wrapping and container, would make a package of a dozen eggs weigh between two and three pounds. The postage on this would be 7 cents. If another dozen eggs were included in the package the postage would not be more than 9 cents, or four and one-half cents instead of 7 cents a dozen eggs.

To the value of the eggs and the cost of postage must be added the cost of the container and the wrapping. For two dozen eggs this may be estimated at 8 cents. With postage at 9 cents, it would, therefore, cost 17 cents to market two dozen eggs, or eight and one-half cents a dozen. By shipping in 10-dozen lots, it is estimated that the marketing cost can be reduced to 4.7 cents a dozen.

Where the container can be used more than once, this cost can of course be somewhat reduced. Large sized containers will stand from two to four trips, smaller ones three to five, so that it will pay the producer to induce his customer to return the containers periodically. The postage required for this is of course deducted from the bill for the next shipment.

Altho it is obviously advantageous both to the producer and consumer that the eggs be shipped in large quantities and consequently economically, it must be remembered in taking orders that the supply of eggs un-

PETERSON'S Barred Rocks

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Of all First and Special prizes. Once again my Barred Rocks prove their superiority at the North Dakota State Show at Fargo, Jan. 1914, by winning as follows:

1st, 2nd, 3rd Cock; 1st, 3rd, 4th Hen.
1st, 2nd, 3rd, 4th Cockerel.
1st, 2nd, 3rd, 4th Pullet; 1st Pen.
Cash special for best display and Silver medal for Best Barred Rock in the Show.
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QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. **WOLVERTON, ROUTE 1, MINN.**

dergoes the greatest fluctuations. In times of scarcity it is not good policy for the producer to send all his output to one customer, neglecting his other friends, nor in times of plenty can he expect to dispose of his entire stock to his regular customers. These points must be given due consideration and the quantities that are to be supplied at each season of the year carefully stated in the contract. The price, too, varies with the supply. One good method of determining this is to take as a basis the wholesale price of eggs on the open market and add to this a certain number of cents a dozen for the new-laid parcel post eggs. Care should be taken, however, to see that there is no possibility of any misunderstanding arising in regard to the basic price. To obviate this, the quotations published in a given newspaper or some other similar authority may be accepted.

Eggs are scarcest and highest in the fall. Chickens should, therefore, be hatched early enough to begin laying at this season. Moreover little difficulty will be experienced then in disposing of the entire output and it will in consequence be unprofitable to divert any of the supply to home purposes. This difficulty can be overcome by preserving eggs in the spring, when they are plentiful and cheap. A solution of water glass, which can be obtained at drug stores for 75 cents a gallon, should be used for this purpose, each quart being diluted with ten quarts of water which has been boiled and cooled. The eggs should be packed in stone jars or crocks and the solution poured over them, or they may be carefully placed in the solution each day. Eggs kept in this way are perfectly good but naturally they do not command the prices of those newly-laid. The shells sometimes break in boiling, but this may be avoided by puncturing the end with a pin just before they are dropped into the water.

The only drawback to marketing eggs by parcel post appears to be the time and trouble involved in packing them. This is compensated for by the extra price that can always be obtained for products that are absolutely reliable. At bottom, therefore, the shipper's success depends upon the care with which he safeguards the reputation of his products. Satisfied customers will soon build up his business for him. Any Post Office will furnish complete information in regard to regulations and rates, and, as already stated, the several State Experiment stations have information in regard to the various types of shipping boxes. The results of the U. S. Government's investigation of the

matter have been published in Farmers' Bulletin 594, of the Department of Agriculture, which will be sent free on request.

Duck raisers claim that a hawk will never attempt to steal a duckling.

The turkey raisers of Rhode Island and Connecticut annually lose a lot of turkey eggs and poults by crows.

Trap nests should be looked after every hour between the hours of nine A. M. and 3 P. M. There should be a trap nest for every three hens in the flock.

Fresh air is important in successful poultry culture. To house fowls in a close, stuffy building, especially during the winter, will result colds which lead on to roup. Since the advent of the scratching-shed houses the value of fresh air has proved its worth and there is less anxiety about poultry diseases.

The question is often asked: "What does it cost to feed a fowl a year?" The writer well remembers when he could feed a flock at a cost of not more than one dollar per head. Then as feed increased in price it became impossible to keep a hen for less than ten cents a month, or \$1.20 per year. Now in the East, carefully kept accounts show that fifteen cents per month, or \$1.80 per year is the cost.

Overcrowding is the father of a peck of troubles. Overcrowding makes overfat hens, and overfat hens lay soft shelled eggs and the egg eating habit follows. Overcrowded flocks roost closely together at night and sweat, leaving them in a weakened condition resulting in sickness. Overcrowding also produces idlers. Idle hens become mischievous hens, and the disgusting vice of feather-pulling is the result. Better results in both health and egg production come from flocks that have plenty of "elbow room."

The era of white-shelled eggs is here. That is, if we may judge by the fad that is being taken up in New York, Philadelphia, and other large cities in the East. This gives a boom to the white-egg laying breeds, especially the Single Comb White Leghorns. But staid old Boston will not change. She loves the brown shell on her eggs, and the richer the color the better the sale. After all, why this fadism? The color of the shell has nothing whatever to do with the flavor of the egg. That is a question of quality of food eaten by the hens.

In some breeds, especially the American and Asiatic varieties, it is often difficult to tell the sex of the young stock, particularly when of the age of

BRED TO LAY

And prize-winning strain. Barded Plymouth Rocks, White Orpington Indian Runner Ducks; Silver Spangled Hamberg; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

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HATCHING EGGS

Rose Comb Reds, Single Comb White Leghorns and White Wyandottes. \$1.00 per 13, or \$1.50 per 15 prepaid. Day-old chicks. Orders booked. Also have Indian Runner ducks and Mammoth Bronze turkeys.

Jos. O. Berg
Hendrum, - - Minn.



Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now.

Mrs. Ira Heidlebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and Eggs for sale. Michael K. Boyer, Box 27, Hammonton, New Jersey.

S. C. Buff Orpingtons, S. C. Black Orpingtons, M. Pekin Ducks and Indian Runner Ducks. Maude I. Matthews - Larimore, N. D.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

Latta's S. C. Rhode Island Reds. First Prize Winners wherever shown. Stock and Eggs for Sale. J. G. Latta, Wheatland, N. D.

Plum Grove Stock and Poultry Farm Breeders of Red Polled Cattle, R. C. White Leghorns and Buff Wyandottes. Stock and Eggs for Sale. V. E. GRANT, Prop., Cuba, N. D.

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Early spring pigs for sale at \$8.00 each, \$15.00 a pair, or \$21.00 a trio (not related.) Eggs for hatching from pure-bred Turkeys, Ducks, Chickens, etc.

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WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write
M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

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FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free
L. GULDEN, Osakis, Minn.

three or four months. Usually the head is broader and the tail more stumpy in males than in females. But this rule does not always hold good, as pullets quite frequently have the outward markings of cockerels. When all other signs fail, the expert distinguishes the sex by the sound of the voice of the chicken when caught—that of the male being coarser and more harsh than that of the female.

Poultry need a variety in their bill of fare. There is no question about that. But some beginners, in the endeavor to supply that variety go to great extremes and useless expense. The veteran compounds his mash food about as follows: Two parts bran, one part each of cornmeal, middlings, ground oats, and meat scrap. To every one hundred pounds of the above is added five pounds linseed (oil) meal. Of late a number of poultrymen have added one part brewers grains to the above formula. In this mixture there is an excellent variety of ingredients that will grow both feathers and eggs. There is no better whole grain feeds than corn, wheat and oats. Equal parts of each, mixed together, is a good summer ration. In winter it is advisable to give two parts each of corn to one part each of wheat and oats. Green food should, if possible, be given daily.

The man who is continually changing his ideas in the management of his poultry, not sticking to one system and working that for all it is worth, never satisfied with the breed but continually changing,—is the man who never succeeds. The late Francis A. Mortimer once said that if a man will take up a single breed and use every effort to perfect it and get the most out of it, he will spend a whole life time. Therefore the man who continually changes, who is led by every new breed invention, is the man who is always in the back seat.

W. D. Rudd, of South Natick, Massachusetts, an old-time friend of the writer, and who in his day was probably the best known market poultryman, said he believed that there are better opportunities for earning a good yearly income in raising poultry than working in the factories or stores under salary. Four hundred hens, he said, are enough for one man to attend to properly, raising the chickens, selling fowl, etc. These ought to pay a profit of one thousand dollars a year, if the man, having started in a small way and grown up in the business, spends his time at it and not in other varieties of farming at the same time.

School and Home

A GUEST ROOM

In the very nature of things a guest room ought to be different from any other room in the house.

You often hear a man say to a friend who is coming to visit at his home, "We will treat you just like a member of the family." But rarely ever do you hear a woman say that. A woman knows that to treat a guest like a member of the family would not be a square deal, because a guest cannot go and look for the things that are not at hand and a member of the family can.

So first of all a guest room must have in it all the small conveniences which it is a joy to find when visiting and which it is embarrassing to ask for.

Just the kind of furniture you use matters very little. You can even use the things that no one in the family wants and with the proper use of color you can make your guest room a delight.

What furniture dealers call golden oak with a shiny finish is about the only furniture that will make any room impossible from a decorative standpoint, no matter how cleverly or with what care you use your colors. So the best thing to do if you have golden oak furniture is to get rid of it. If you can't afford to do that then sandpaper it down to the wood itself and either stain it or paint it white. If you paint it white, put on as many coats as seem necessary using as a last coat paint with an egg shell finish. With white furniture, no matter what the design may be, you can have a charming room.

Keep the walls in some pale shade of plain paper or tint then if you have a good eye for color. The tints come in rather crude shades and sometimes have to be mixed with white or some other shade to get the desired result. If you use a tint called alabasco there is a shade of straw color that comes ready for use. This makes a beautiful room and has this great advantage, that you can put it on yourself.

No room that is fixed entirely by a decorator ever gives you as much pleasure as when you do some of the actual work yourself. If you have your walls in this straw colored alabasco, charming results are got by using a creton that has a white background flaked with yellow and here

and there an isolated room shading from pink to deepest red.

Have a well-equipped work basket on the table with a pink bow on top of it; a good reading lamp with a shade of the pink rose creton shirred on a wire frame; and just a few good books; thin muslin or dotted swiss bureau covers over pink; one or two pieces of old china and a softly ticking clock on the mantle; a water pitcher, glass, candle and matches on a small table near the bed; and pins, plenty of pins of every sort and description, and your guest room will be a success.

If there is a fire place, there should be a fire ready to light, with fresh wood or coal at hand. You see it is awkward for a guest to ask for these things, and unless they are provided he will simply go cold and say nothing.

If a wood fire is used, an old brass or iron kettle takes the place of a wood basket and gives a quaint air to your guest room.

Rag rugs are always pretty in a bed room. They can be used on painted or polished floors or on a solid colored denim filling.

The fewer pictures in a guest room the better. Pictures should always represent the individual taste of the person who occupies a room, therefore they seem inappropriate in a room occupied from time to time by different people with varying tastes.

The beauty of a guest room like that of every other room in a house depends more on the use of color than on the expenditure of money, more on thought and care than on the lavish use of non-essentials.

FOR THE CHILDREN'S SAKE

You have been planning as to which field you will put into wheat this fall; which field of alfalfa you will break up for next year. You have been making tests to find out which of the cows are not earning their board and keep. You have been examining to see which apple trees to mark for grubbing out next winter. You have been planning what new fences to build, and you have finally concluded to use the old binder another year. You have dreamed a good many dreams of the automobile that will be yours if the oats, the alfalfa, the beets, the pigs, and the apples are up to standard. Yes, you've done a

lot of thinking and scheming about these things.

And yet, of course you agree that the best farm crop is boys and girls. What about next year for them? Where will they go to school? Is it fair to call it school? Who's to be their teacher? Is the school term to be the same length as last year? What about Susan who finished the eighth grade a year ago, and John—who finished this spring? Are school days over for them? Are you intending to send them to high school? Have you investigated the School of Agriculture and Home Economics at Fort Collins?

And what about the younger children, those still in the grades? Have you thought of their schooling for next year, or have you left everything to the board? Isn't it high time you (and the board) hunted a teacher of the kind you want rather than waiting until fall, and then taking any of the teachers that are wanted in the cities, but nevertheless the cities showed their wisdom in hiring their teachers before the schools closed this spring.

Isn't it about time to settle these questions for the children's sake?

B. F. COEN,

Colorado Agricultural College,
Fort Collins, Colorado.

TYPHOID FLY BULLETIN

Fight the Fly With Traps, Poisons, Repellant Sprays, and Clean-Up Methods.

J. O. Rankin, University, Farm St. Paul, Minn.

It requires no argument to prove that the annoying disease-bearing fly should be exterminated or controlled. The only question is "How"? Flies and Their Control, Extension Bulletin 43, of the Minnesota Farmers' Library, undertakes to answer this question. It deals with the house fly and some of the more important stock flies which are perhaps the worst pests of Minnesota animals.

In dealing with the habits and rapid increase of flies, Professor F. L. Washburn, the author, lays special emphasis on the transmission of disease germs from filth to food and the importance of screens and clean-up sanitation in combating the pest. Stables and privies should be so managed that flies cannot breed or feed in them and then carry infection to the family table or the baby's bottle. Food for sale should be screened or kept under glass. Three teaspoonfuls of formalin in half a pint of milk diluted with the same amount of water makes an ef-

fective fly-poison, especially if no other drinking place is open to the flies, but should be kept out of reach of children. Sticky paper is preferable to poisoned fly paper. The bulletin gives full directions for making the Minnesota fly trap.

The stock flies discussed include the horn fly, deer flies, the biting stable fly, and the horse botfly. The general preventatives suggested are (1) darkened stables with burlap over the door to brush off and exclude flies as the animal enters; (2) a spray of three parts fish oil and one part kerosene; and (3) an ointment made by mixing a pint of kerosene with a pound of lard and applied thinly with a cloth over the animal's back. The nits of the horse fly can be removed by clipping affected portions or by brushing them with a feather dipped in kerosene. Too much kerosene should not be used.

THE TIME FOR THE FARMER'S VACATION

Many farmers are tempted to take their time off at this season (in July), when they have finally got their wheat cut and in shock, and their corn laid by. If, however, they will plow their stubble in July and then keep the weeds down during the late summer, taking an occasional ten days' vacation in the meantime, they will get, the following year, from 20 to 25 bushels from an acre of land that would otherwise yield them only from 13 to 15 bushels.

Experiments have proved conclusively that stubble should be plowed early. Investigations of the U. S. Department of Agriculture have shown that every delay of 10 days in plowing the stubble means a loss of a bushels of wheat or more per acre. Still the farmer in general has not adopted the practice of plowing his stubble in July. The average man never does a thing until he is compelled by circumstances and most farmers are satisfied merely to get his plowing done in time to sow his wheat at the proper season.

The farmer's life is very strenuous during the early part of the year and only at this season is he able to lay off for a spell. He must plant his corn fairly early in the spring; he must cultivate it diligently or weeds will take it; when the wheat is ripe, he must harvest it or he may lose it. It is not surprising, therefore, that at the first season when there is nothing absolutely driving him, he wishes to have a little respite when city people are also taking their annual outings.

A growth of weeds during the hot summer months may make consider-

able headway and stock the soil with great quantities of seed for many years to come.

One of the worst weeds in the Middle West is a grass which stands up like a fox-tail and is known by that name. The fox-tail has a companion weed known as ragweed, and both occur generally thruout the country. In the East the former is less annoying, and the latter is more so. To the farmers of the Middle West the importance of keeping out the fox-tail is quite as great as early plowing of the stubble. If the stubble is plowed early and the plowed land is not properly cultivated afterwards, fox-tail will still come on and make seed, but if the plowed land is given proper cultivation, the fox-tail will not grow on it. This fact of itself will increase the yield of wheat and will keep the pestiferous weeds out of the corn, which in vicinities where rotation is practiced, may follow the wheat on the same land.

NORTHERN PACIFIC RAILWAY IS MAKING COSTLY TRACK IMPROVEMENTS IN THE CASCADE MOUNTAINS

The Northern Pacific Railway has for some time been carrying forward on the West End, improvements of a very important and permanent nature. These improvements are largely double track work over the Cascade Range and general track improvements north of Seattle.

To facilitate the increase in traffic over the Cascade Mountains the Northern Pacific Railway Company is now double tracking its line between Eastern on the east, and Lester on the west, side of the Cascades. The present mileage between these two points

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 cent by express prepaid for \$1.

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See California

and her two great Expositions FOR ONE DOLLAR

California will hold next year two great universal Expositions, one at San Francisco and the other at San Diego, in celebration of the completion of the Panama Canal and the joining of the Atlantic and Pacific Oceans.

To supply the demand for reliable and authentic information on California and these two Expositions, we have published two guide books; one on San Francisco, the Exposition and Northern California; the other on Los Angeles, San Diego, the Exposition and Southern California, also a lithographed view of San Francisco in colors (size 30x45 inches) a picture of the rebuilt city, including the Exposition. Each book is 6x9 inches, contains 150 pages and beautiful illustrations.

These two books and view give a comprehensive, honest history and description of the State, her principal cities, resources and her two great Expositions. Sent postpaid for a one dollar bill, money order, draft or check. North American Press Association, 1445 Hearst Building, San Francisco

is 24 miles, but the new work involves also a line change on the west side of the mountains 3.2 miles in length between Weston and Lester, which will shorten the line 2.3 miles. This line change requires heavy rock cuts and the crossing of the Green River Valley with a steel viaduct 1122 feet long and a height above the river of 150 feet.

To safeguard the traffic thru the Stampede Tunnel, 9844 feet long, there is also now under installation a modern tunnel ventilating system, which will have a fan capacity of about 540,000 cubic feet of air per minute.

Another extensive piece of work now under construction is the improvement of the line from Seattle north to Sumas on the British Columbian boundary. This involves a reduction of grades and curvature in both directions, railway bank widening, and the ballasting and relaying of track with 85 lb. rails. The total length of improved mileage on this line for this year will be 82.5 miles of which 15.6 miles is line changes between McMurray and Montborne, between Sedro-Woolley and Wickersham, and a 4.2 mile connecting Northern Pacific track to the Great Northern Railway near Edgcomb.

Arrangements have also been made for use of the Great Northern tracks thru Everett, north from Seattle, between Snohemish and Edgcomb in order to avoid the heavy grades of the Northern Pacific tracks over the Hartford Hill. These improvements will add greatly to the efficiency and economy of train operation and in other respects prove of value to the railway company.

PROTECT THE SKUNK, SAYS DEPARTMENT

Animal experts of the Department of Agriculture are loud in their praise of the skunk and state that it stands among the most important animals that choose for their diet insects harmful to the farmer. It is the best-known enemy of army worms, including the common army worm, the wheat-head army worm, and the fall army worm, all of which are destructive to small grains, corn, and grasses and cause heavy losses every year to farmers. Two kinds of tobacco worms, which also attack tomato and potato plants, are eaten by the skunk in large numbers. The white grub is also dug for by the skunk and consumed by him, and the strawberry growers generally regard the animal with favor. Skunks also destroy the hop grub, grasshoppers, cutworms, crickets,

sphinx moths, sweet potato beetles, Colorado potato beetles, field mice, and rats. Occasionally an individual skunk learns to prey upon poultry and may become a source of great annoyance and loss. In such case the animal should be destroyed either by trapping or poisoning. As a matter of fact, minks and weasels, which have not nearly the bad name possessed by their cousin the skunk, are far more blood-thirsty and are expert climbers to roosts, while a common skunk will kill only birds found on the ground.

Skunks are also accused of destroying beehives. However, the possibilities of this animal attacking an apiary may be entirely avoided by placing the hives upon a high bench.

A pound of cheap bar soap dissolved in a gallon of boiling water and added to about 5 gallons of thick whitewash will give it a gloss like oil paint. Silicate of soda in the proportion of 1 to 10 of whitewash produces a fire-proof cement.

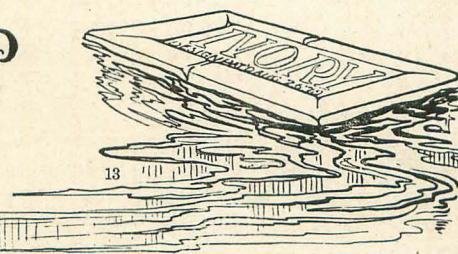


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North Dakota Farmer, - Lisbon, North Dakota

Seasonable Receipts

Edited by Mrs. Sadie Baird.

Rhubarb Pie

One cup finely chopped rhubarb, one cup sugar, one tablespoon flour, yolks of two eggs, mix well and bake in lower crust. When baked frost with the whites of the eggs.

Jelly Roll Cake

Four eggs, pinch salt, beaten light, one cup sugar, one cup of flour in which has been sifted one teaspoon of baking powder. Flavor. Bake in long bread pan in quick oven. Turn out.

Chocolate Pie

One cup hot water, one-half cup grated chocolate, one-half cup sugar, butter size of an egg, two teaspoons Kingsford's cornstarch in a little cold milk. After mixture boils add beaten yolks of two eggs. Cook until thick, one-half teaspoon vanilla. Pour in banked crust and frost.

Flaky Pie Crust

One cup of lard to three of flour, pinch of salt and one teaspoon baking powder. Beat white of one egg, slightly; add to it five tablespoons cold water. Mix lightly, with flour and lard, and the crust will be very flaky.

French Pickles

Make a salt brine strong enough to beat an egg. Soak small cucumbers in it for twenty-four hours. Drain off the brine and rinse the pickles in clear water. Take one pint cider vinegar, one-half pint water, one cup sugar, one teaspoon mixed spices, and let come to a boil. Fill a two-quart jar with the pickles, pour boiling vinegar over, and seal.

Horseradish Pickles

Three or four inch cucumbers used whole. Wash and wipe and put in prepared vinegar. May be put in as gathered. To each gallon of vinegar allow one scant cup salt, one cup sugar, one cup grated horseradish, one-half cup ginger, or one cup mustard instead of horseradish and ginger.

Pickled Beans

Clean the beans and break in inch lengths and boil in salt water till almost done; then drain off the water. Put a pint of vinegar, one-half pint water, one and one-half cup sugar, one half teaspoon spice in the kettle and return the beans; boil ten minutes and seal. Will keep well all winter.

Peach Pickles

Pour boiling water over peaches and remove skin. Prepare syrup of the proportion of one cup vinegar to three cups sugar, one teaspoon whole cloves, one tablespoon stick cinnamon. Put in the peaches a few at a time and cook till easily pierced with a silver fork, but not too soft. Pack in jar and pour boiling syrup over. Will keep without sealing.

Salad Dressing

One and one-half tablespoon sugar, one tablespoon flour, one tablespoon butter, one-fourth teaspoon salt, one-half teaspoon mustard, one-fourth cup vinegar. Cook mixture and add two beaten eggs. Stir until thick and beat until cool. Thin with whipping cream.

Meat Sandwiches

Finely chopped chicken and tongue or ham mixed with lettuce leaf torn in small pieces and all mixed with salad dressing makes a good filling.

Conserve

One quart rhubarb, not peeled, one pint red raspberries, one pint red currants, one pound raisins cut up, two oranges with peel cut up. To each pound of fruit add one pound sugar. Boil till thick like jelly. May add one pound of walnuts.

Nut and Raisin Cake

One and one-half cups brown sugar, three quarters cup butter, one-half cup cold water, two eggs well beaten, one teaspoon soda, one teaspoon cinnamon, one-half teaspoon cloves, one cup raisins chopped, one cup nuts chopped, (any kind of nut meats) two cups flour.

White Cake

Two cups granulated sugar, three-fourths cup butter. Beat to a cream. Whites of five eggs, beaten stiff, one cup luke warm water, three cups flour put in separately with one teaspoon baking powder in each, vanilla. Makes two large loaf cakes or one loaf and two layer cakes.

Milk Sherbet

Squeeze the juice of six lemons on five cups sugar. Put the skins with a pint of water on fire and let simmer a few minutes. Then pour it on the sugar and lemon juice. Put two quarts new milk in freezer. When it begins to stiffen add the syrup of lemon and sugar.

Spiced Gooseberries

Six quarts gooseberries, four and one-half quarts sugar, (cook one and one-half hours,) then add one pint vinegar and one table spoon each cloves, cinnamon and allspice. Boil a few minutes, add a little water, at first to dissolve the sugar.

Gooseberry Catsup

Choose ripe gooseberries of the red sort. Boil slowly with a little water until very soft; press thru a colander, weigh the pulp and to every five pounds allow three pounds of white sugar, a half pint vinegar, a level teaspoon each of ground cinnamon and salt. Boil until rich and thick; seal, boiling hot.

Choke Cherry and Crab

Apple Jelly

Put choke cherries in kettle with water enough to cover. Stew until soft. Strain thru jelly bag. Prepare crab apples in same manner. To one cup cherry juice add two of apple, boil twenty-five minutes, then add one cup sugar to each cup juice and boil ten minutes more. Use the same proportions for wild plum and crab apple jelly.

Currant Shrub

Allow one pound sugar, one pint juice. Boil five minutes and bottle. Serving, use one tablespoonful to a glass of ice water.

To Sterilize Milk

Put in bottles and set in cold water with something under the bottles. Heat the water to 160 degrees F. and let stand twenty minutes. Then put on ice.

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